

IN THE CLAIMS

1. (currently amended) An intervertebral disc replacement assembly for replacing at least portions of at least two intervertebral discs in a spinal column, comprising:

a first member having a first vertebral contact surface, a first articulation surface, and a first flange including a first through hole for receiving a bone screw for fastening the first member to a first vertebral bone of a spinal column, and a first fastener hole;

a first intermediate member having a first intermediate vertebral contact surface, a first intermediate articulation surface, and a first intermediate flange including a second fastener hole offset from the first fastener hole of the first member, the entirety of the first intermediate flange offset to one side of a midline of the assembly, the first intermediate vertebral contact surface being operable to contact an endplate of an intermediate vertebral bone adjacent to the first vertebral bone of the spinal column, the first articulation surface and the first intermediate articulation surface cooperating to facilitate articulation of adjacent vertebral bones of the intervertebral disc space when the intervertebral disc replacement device is disposed in the intervertebral disc space; and

a first insertion plate for engaging the first member and the first intermediate member, the first insertion plate cooperating to orient the first articulation surface and the first intermediate articulation surface in substantial registration with one another for simultaneous insertion into the intervertebral disc space,

wherein the first and second fastener holes of the first flange and the first intermediate flange are sized and positioned to receive at least one fastener operable to couple to the first insertion plate thereto such that the first member

and the first intermediate member are oriented in registration with one another for simultaneous insertion into a first intervertebral disc space defined by respective endplates of the first and intermediate vertebral bones.

2. (previously presented) The intervertebral disc replacement assembly of claim 1, further comprising:

a second intermediate member having a second intermediate vertebral contact surface and a second intermediate flange including a third fastener hole offset from the second fastener hole of the first intermediate member, the entirety of the second intermediate flange offset to the other side of the midline of the assembly, the second intermediate vertebral contact surface being operable to contact an opposite endplate of the intermediate vertebral bone of the spinal column;

a second member having a second vertebral contact surface and a second flange including a second through hole for receiving a bone screw for fastening the second member to a second vertebral bone adjacent to the intermediate vertebral bone of the spinal column, and a fourth fastener hole offset from the third fastener hole; and

a second insertion plate,

wherein the third and fourth fastener holes of the second flange and the second intermediate flange are sized and positioned to receive at least one fastener operable to couple to the second insertion plate thereto such that the second member and the second intermediate member are oriented in registration with one another for simultaneous insertion into a second intervertebral disc space adjacent to the first intervertebral disc space and defined by respective endplates of the intermediate and second vertebral bones.

3. (previously presented) The intervertebral disc replacement assembly of claim 2, wherein the first and second insertion plates cooperate to orient the through holes of the first and second flanges of the intervertebral disc replacement device to have a configuration substantially similar to that of a spinal fusion plate when viewed from at least an anterior vantage point.

4. (previously presented) The intervertebral disc replacement assembly of claim 2, wherein at least one of:

the first insertion plate cooperates to engage and orient the first member and the first intermediate member for simultaneous insertion into the first intervertebral disc space; and the second insertion plate cooperates to engage and orient the second member and the second intermediate member for simultaneous insertion into the second intervertebral disc space.

5. (previously presented) The intervertebral disc replacement assembly of claim 4, wherein:

the first insertion plate includes a base, a first mounting element of the base operable to engage the first member of the intervertebral disc replacement device, and a first intermediate mounting element of the base operable to engage the first intermediate member of the intervertebral disc replacement device;

the second insertion plate includes a base, a second mounting element of the base operable to engage a second member of the intervertebral disc replacement device, and a second intermediate mounting element of the base operable to engage the second intermediate member of the intervertebral disc replacement device; and

the first mounting element and the first intermediate mounting element are offset with respect to one another and the second mounting element and the second intermediate mounting element are offset with respect to one another relative to a longitudinally directed axis of the bases running substantially parallel to a longitudinal axis of a spinal column such that the first and second intermediate mounting elements do not interfere with one another when the first and first intermediate members of the intervertebral disc replacement device are positioned in the first intervertebral disc space of the spinal column and the second and second intermediate members of the intervertebral disc replacement device are positioned in the second intervertebral disc space of the spinal column.

6. (previously presented) The intervertebral disc replacement assembly of claim 5, wherein the first intermediate mounting element and the second intermediate mounting element are offset in opposite directions with respect to the longitudinally directed axis of the bases.

Claims 7-24 (canceled)

25. (previously presented) The intervertebral disc replacement assembly of claim 5, wherein the first and second insertion plates each include a ledge member extending from posteriorly directed surface of their bases, the ledge member having first and second spaced apart surfaces and being sized and shaped to extend at least partially between the first member and the first intermediate member and the second member and the second intermediate member, respectively, such that they may be at least one of inserted into and moved within the intervertebral disc space without substantially changing their orientation with respect to one another.

26. (previously presented) The intervertebral disc replacement device of claim 25, wherein at least one of:

at least one of the first and second spaced apart surfaces of the ledge members are contoured for engagement with respective surfaces of the first member and the first intermediate member and the second member and the second intermediate member of the intervertebral disc replacement device; and

at least one surface of each ledge member is curved and at least one surface of each ledge member is flat.

27. (previously presented) The intervertebral disc replacement assembly of claim 5, further comprising a first insertion member extending away from an anteriorly directed surface of the base of the first insertion plate and operable to facilitate movement of the intervertebral disc replacement device and insertion thereof into the intervertebral disc space.

28. (previously presented) The intervertebral disc replacement assembly of claim 27, further comprising a second insertion member extending away from an anteriorly directed surface of the base of the second insertion plate and operable to facilitate movement of the intervertebral disc replacement device and insertion thereof into the intervertebral disc space.

29. (previously presented) The intervertebral disc replacement assembly of claim 28, wherein the first and second insertion members each include an anteriorly extending stem to facilitate movement.

30. (previously presented) The intervertebral disc replacement assembly of claim 29, wherein the stems are sized

and shaped for engagement with an insertion handle to further facilitate movement.

31. (previously presented) The intervertebral disc replacement assembly of claim 30, wherein the stems are detachable from the insertion handle to facilitate removal of the handle when the intervertebral disc replacement device is positioned within the intervertebral disc space.

32. (previously presented) The intervertebral disc replacement assembly of claim 31, wherein one of the stem and the insertion handle includes a bore and the other of the stem and the insertion handle includes a tapered shaft that frictionally engages the bore to facilitate detachable engagement with one another.

Claims 33-38 (canceled)

39. (new) An intervertebral disc replacement assembly for replacing at least portions of at least two intervertebral discs in a spinal column, comprising:

a first member having a first vertebral contact surface and a first flange including a first through hole for receiving a bone screw for fastening the first member to a first vertebral bone of a spinal column, and a first fastener hole;

a first intermediate member having a first intermediate vertebral contact surface and a first intermediate flange including a second fastener hole offset from the first fastener hole of the first member, the entirety of the first intermediate flange offset to one side of a midline of the assembly, the first intermediate vertebral contact surface being operable to contact an endplate of an intermediate vertebral bone adjacent to the first vertebral bone of the spinal column;

a first insertion plate for engaging and orienting the first member and the first intermediate member for simultaneous insertion into the first intervertebral disc space, the first insertion plate including a base, a first mounting element of the base operable to engage the first member of the intervertebral disc replacement device, a first intermediate mounting element of the base operable to engage the first intermediate member of the intervertebral disc replacement device, and a first ledge member extending from a posteriorly directed surface of the base, the first ledge member having first and second spaced apart surfaces and being sized and shaped to extend at least partially between the first member and the first intermediate member such that they may be at least one of inserted into and moved within the intervertebral disc space without substantially changing their orientation with respect to one another;

a second intermediate member having a second intermediate vertebral contact surface and a second intermediate flange including a third fastener hole offset from the second fastener hole of the first intermediate member, the entirety of the second intermediate flange offset to the other side of the midline of the assembly, the second intermediate vertebral contact surface being operable to contact an opposite endplate of the intermediate vertebral bone of the spinal column;

a second member having a second vertebral contact surface and a second flange including a second through hole for receiving a bone screw for fastening the second member to a second vertebral bone adjacent to the intermediate vertebral bone of the spinal column, and a fourth fastener hole offset from the third fastener hole; and

a second insertion plate for engaging and orienting the second member and the second intermediate member for simultaneous insertion into the second intervertebral disc

space, the second insertion plate including a base, a second mounting element of the base operable to engage a second member of the intervertebral disc replacement device, a second intermediate mounting element of the base operable to engage the second intermediate member of the intervertebral disc replacement device, and a first ledge member extending from a posteriorly directed surface of the base, the first ledge member having first and second spaced apart surfaces and being sized and shaped to extend at least partially between the first member and the first intermediate member such that they may be at least one of inserted into and moved within the intervertebral disc space without substantially changing their orientation with respect to one another,

the first mounting element and the first intermediate mounting element are offset with respect to one another and the second mounting element and the second intermediate mounting element are offset with respect to one another relative to a longitudinally directed axis of the bases running substantially parallel to a longitudinal axis of a spinal column such that the first and second intermediate mounting elements do not interfere with one another when the first and first intermediate members of the intervertebral disc replacement device are positioned in the first intervertebral disc space of the spinal column and the second and second intermediate members of the intervertebral disc replacement device are positioned in the second intervertebral disc space of the spinal column,

wherein the first and second fastener holes of the first flange and the first intermediate flange are sized and positioned to receive at least one fastener operable to couple to the first insertion plate thereto such that the first member and the first intermediate member are oriented in registration with one another for simultaneous insertion into a first intervertebral disc space defined by respective endplates of the

first and intermediate vertebral bones, and the third and fourth fastener holes of the second flange and the second intermediate flange are sized and positioned to receive at least one fastener operable to couple to the second insertion plate thereto such that the second member and the second intermediate member are oriented in registration with one another for simultaneous insertion into a second intervertebral disc space adjacent to the first intervertebral disc space and defined by respective endplates of the intermediate and second vertebral bones.